

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A data processing system implemented method for locating harvested material, the method comprising:

receiving, by the data processing system, material data including material location data on a material location of unloaded harvested material within a work area, wherein the unloaded harvested material is unloaded from a harvester that harvested the harvested material;

obtaining, by the data processing system, background data on at least one established transportation path within the work area;

determining, by the data processing system, a forwarder location of a forwarder;
estimating, by the data processing system, economic cost factors associated with corresponding candidate paths or segments of candidate paths between the forwarder location and the material location; and

selecting, by the data processing system, a preferential path plan between the forwarder location and the material location consistent with the background data and minimization of the economic cost factors, wherein the material location of the unloaded harvested material is a different location than the forwarder location of the forwarder.

2. (Currently Amended) The method according to claim 1 further comprising:

establishing a drop-off location for the unloaded harvested material;

determining a path plan between the material location and the drop-off location.

3. (Original) The method according to claim 1 wherein the path plan comprises a shortest possible path that traverses at least one of a harvested area, an unharvested area, and a transportation path associated with the work area.

4. (Currently Amended) The method according to claim 3 further comprising receiving harvester data including harvester location data on a harvester location of a harvester within the work area, wherein the material location of the unloaded harvested material is a different location than the harvester location of the harvester, and wherein the material location and the harvested area is updated on a regular basis.
5. (Currently Amended) The method according to claim 1 wherein the unloaded harvested material comprises a material selected from the group consisting of grain, wood, cellulose, logs, and crops and the material is distinguished from one another by an optical sensor.
6. (Original) The method according to claim 1 wherein the material location is updated after the addition of a new material location.
7. (Currently Amended) The method according to claim 1 wherein the background data comprises transient data associated with at least one of a time-dependent location of a machine in the work area, a time-dependent location of a person within the work area, and a time-dependent definition of a harvested area associated with the work area, and wherein both the background data and the material data are specified by a user using a user interface of the data processing system.
8. (Original) The method according to claim 1 wherein selecting a preferential path plan further comprises considering environmental factors to reduce soil compaction from the forwarder.
9. (Original) The method according to claim 1 wherein selecting a preferential path plan further comprises considering vehicle dynamic constraints related to the handling and maneuvering capabilities of the forwarder that is transporting a certain corresponding level of a load of the harvested material.

10. (Currently Amended) A data processing system implemented method for locating harvested material, the method comprising:

collecting, by the data processing system, material data including at least one of harvester location data, material location data, a material identifier, a material attribute, and a material attribute value, wherein the material location data, the material identifier, the material attribute, and the material attribute value are each associated with the harvested material;

obtaining, by the data processing system, background data for the work area;

storing, by the data processing system, the collected material data and the obtained background data; [[and]]

making available the stored data to a forwarder;

receiving the stored data via an electromagnetic signal;

determining a forwarder location of the forwarder in the work area;

identifying a preferential path plan with an efficient path cost between the forwarder location and a material location and between the material location and the drop-off destination based on the stored data, including the material data and the background data, and based on cost factor data, wherein the material location is a location of the harvested material unloaded from a harvester that harvested the harvested material.

11. (Currently Amended) The method according to claim 10 wherein the collected material data is stored in response to unloading the harvested material from the harvester, and wherein the making available comprises transmitting the stored data from [[a]] the harvester directly to [[a]] the forwarder via an electromagnetic signal that the harvester transmits to the forwarder.

12. (Original) The method according to claim 10 wherein the obtaining background data comprises obtaining obstruction data, hazard data, ground cover data, topographical data, established transportation route data, established transportation path data, and vegetation data for at least part of the work area.

13. (Currently Amended) The method according to claim 10 wherein the obtaining background data comprises (i) obtaining static data and transient data as the background data, wherein the static data remains generally constant over a greater sample period and wherein the transient data tends to vary over the greater sample period, and (ii) providing a user interface that allows a user to override the background data that is obtained.

14. (Currently Amended) ~~The method according to claim 10 further comprising:~~ A data processing system implemented method for facilitating locating harvested material, the method comprising:

collecting, by the data processing system, material data including at least two of material location data, a material identifier, a material attribute, and a material attribute value, wherein the material location data, the material identifier, the material attribute, and the material attribute value are each associated with the harvested material, and wherein the harvested material is material that has been unloaded from a harvester that harvested the material; and

marking the harvested material with a marker for referencing the collected material data, wherein the marker is at least one of a bar code, a uniform product code (UPC), an optical code, a radio frequency identification tag, an optical tag, and a tag, and the marker is usable to locate the harvested material that has been unloaded from the harvester.

15. (Currently Amended) The method according to claim 14, further comprising reading the marker associated with the harvested material by a forwarder that includes forwarder electronics ~~10 further comprising:~~

receiving stored data via an electromagnetic signal;

determining a forwarder location of a forwarder in the work area;

identifying a preferential path plan with an efficient path cost between a forwarder location and a material location and between the material location and the drop-off destination based the stored data, including material data and background data, and based on cost factor data.

16. (Currently Amended) The method according to claim [[15]] 10 further comprising:
obtaining background data via forwarder electronics for supplementing, augmenting or replacing the stored background data.

17. (Currently Amended) The method according to claim [[15]] 10 further comprising:
presenting the preferential path plan to the operator via a user interface.
18. (Currently Amended) The method according to claim [[15]] 10 wherein the cost factor data comprises one or more of the following items: estimated travel time between a starting point and a destination point of a candidate path plan or segment, empirical travel time between a starting point and a destination point of candidate path plan or segment, a travel distance between a starting point and a destination point of a candidate path plan or segment, and a travel distance between [[a]] the material location and one or more corresponding drop-off locations.
19. (Currently Amended) The method according to claim [[10]] 14 further comprising:
reading [[a]] the marker for referencing the stored data;
determining, in response to the reading of the marker, a forwarder location of a forwarder in the work area;
identifying a preferential path plan with an efficient path cost between [[a]] the forwarder location and a material location of the harvested material that has been unloaded from the harvester and between the material location and the drop-off destination based the stored data, including material data and background data, and based on cost factor data.
20. (Original) The method according to claim 19 further comprising:
obtaining background data via forwarder electronics for supplementing, augmenting or replacing the stored background data.
21. (Original) The method according to claim 19 further comprising:
presenting the preferential path plan to the operator.
22. (Currently Amended) The method according to claim 19 wherein the cost factor data comprises one or more of the following items: estimated travel time between a starting point and a destination point of a candidate path plan or segment, empirical travel time between a starting point and a destination point of candidate path plan or segment, a travel distance between a starting point and a destination point of a candidate path plan or segment, and a travel distance

between [[a]] the material location and one or more corresponding drop-off locations.

23. (Currently Amended) A system for locating harvested material in a work area, the system comprising:

a harvested material attribute sensor for collecting material data including at least [[one]] ~~two of harvester location data~~; material location data, a material identifier, a material attribute, and a material attribute value, wherein the material location data, the material identifier, the material attribute, and the material attribute value are each associated with the harvested material;

a navigational/environmental sensor for obtaining background data for the work area;

a storage device for storing the collected material data and the obtained background data;

and

a wireless communications device for making available the stored data to a forwarder, wherein the material location data indicates a material location of harvested material unloaded from a harvester that harvested the harvested material.

24. (Currently Amended) The system according to claim 23 further comprising:

another wireless communications device for receiving the stored data via an electromagnetic signal;

a location-determining receiver for determining a forwarder location of a forwarder in the work area; and

a data processor for identifying a preferential path plan with an efficient path cost between [[a]] the forwarder location and [[a]] the material location of the harvested material unloaded from the harvester and between the material location and the drop-off destination based the stored data, including the material data and the background data, and based on cost factor data.

25. (Currently Amended) The system according to claim 23 further comprising:
a reading device reading a marker for referencing the stored data, wherein the marker is associated with the harvested material that is unloaded from the harvester;
another location-determining receiver for determining a forwarder location of a forwarder in the work area;
a data processor for identifying a preferential path plan with an efficient path cost between [[a]] the forwarder location and [[a]] the material location of the harvested material unloaded from the harvester and between the material location and the drop-off destination based the stored data, including material data and background data, and based on cost factor data.
26. (Original) The system according to claim 23 wherein the data processor further comprises:
an estimator for estimating economic cost factors associated with corresponding candidate paths or segments of candidate paths between the forwarder location and the material location; and
a selector for selecting a preferential planned path between the forwarder location and the material location consistent with the transient data, the background data, and minimization of the economic cost factors.
27. (Original) The system according to claim 26 wherein the data processor further comprises a guidance module for presenting guidance information on the selected preferential path plan to a user via a user interface.
28. (Original) The system according to claim 23 further comprising a user interface for entering the material data to supplement or complement an output of the harvested material attribute sensor.
29. (Original) The system according to claim 23 further comprising:
a central processor determining the preferential path plan from the collected material data and background data collected by one or more harvesters and sending the determined preferential path plan to a plurality of forwarders operating in the work area.